No. 8800116

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Southern States Cooperative, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'SS 487'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D. C. *this* 30th *day of* March *in the year of our Lord one thousand nine hundred and ninety.*

Attest:

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Clayton Yeutter
Secretary of Agriculture

APPROVAL EXPIRES 4-30-85

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)
Southern States Cooperative, Inc.

2. TEMPORARY DESIGNATION

3. VARIETY NAME
SS 487

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
6606 West Broad Street, P.O. Box 26234
Richmond, Virginia 23260

5. PHONE *(Include area code)*
(804) 281-1253

FOR OFFICIAL USE ONLY

PVPO NUMBER
8800116

6. GENUS AND SPECIES NAME
Glycine max

7. FAMILY NAME *(Botanical)*
Leguminosae

FILING
DATE March 14 1988
TIME 1:30 ☐ A.M. ☑ P.M.

8. KIND NAME
Soybean

9. DATE OF DETERMINATION
March 1986

FEES RECEIVED
AMOUNT FOR FILING
$ 1800.00
DATE March 14 1988
AMOUNT FOR CERTIFICATE
$ 200.00
DATE Mar. 26, 1990

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Cooperative

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Virginia

12. DATE OF INCORPORATION
1923

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Gilbert W. Barber
Southern States Cooperative, Inc.
6606 West Broad Street, P.O. Box 26234
Richmond, Virginia 23260
PHONE *(Include area code)*: (804) 281-1253

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety *(Request form from Plant Variety Protection Office.)*
d. ☐ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* ☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☒ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ Yes *(If "Yes," give date)*
☒ No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES ?
☐ Yes *(If "Yes," give names of countries and dates)*
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
Gilbert W. Barber

DATE
March 3, 1988

SIGNATURE OF APPLICANT

DATE

FORM WA-470 (7-84) (Edition of 3-84 is obsolete.)

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EXHIBIT A

Origin and Breeding History of SS487

1978 - Cross was made in Indiana.
PARENTS: A4268 * K1024

1978-79 (Winter) - 10 F_1 plants grown in Florida under lights.

1979 - F_2 bulk population grown in Indiana.

1979-80 (Winter) - F_3 bulk population grown in Florida. Single pods picked from each plant in bulk population.

1980 - F_4 bulk population grown in Indiana. Single plant selections were pulled and threshed individually.

1981 - F_5 plant rows grown in Indiana. One row was selected for its uniformity and standability. This row was bulk threshed and verified for uniform seed coat luster and hilum color.

1982 - Variety was evaluated for yield in Indiana and Illinois. It was selected based on its standability and agronomic appearance. Due to its superior yield, it was moved directly into advanced testing.

1983-84 - Variety was evaluated in yield tests across the following states: Indiana, Illinois, Missouri, Kentucky, Maryland, Delaware and Virginia. It produced uniform stands and was selected for its yield and standability.

1982-84 - Variety was segregating for pod wall color so sixty (60) individual plants were pulled and threshed. Grew these out as plant rows in 1983 and harvested fifty (50) rows which were uniform for pod wall color as well as other traits. These fifty (50) rows were planted on replicated test in 1984, and the best five (5) sublines were bulked after harvest based on uniformity for all plant traits.

1985 - Original variety was evaluated in side-by-side yield tests with the bulk of the five (5) uniform sublines in the following states: Indiana, Illinois, Missouri, Kentucky, Maryland, Delaware, and Virginia. The bulk of the five (5) sublines were similar in all plant traits to the original variety except that the pod wall color was uniform. A sample of the uniform sublines selected was grown for breeders seed in Illinois. This seed will be sent to Missouri for pilot production in 1986.

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SUPPLEMENT TO EXHIBIT A

Uniformity and Stability of SS487

1981 F5 plant row was selected for its standability and agronomic appearance. Variety was uniform for all plant traits except pod wall color.

1982 Since variety was segregating for pod wall color, sixty (60) individual F6 plants were pulled and thrashed which were uniform for pod wall color.

1983 Grew all sixty of these individual plants out as F7 plant rows to check for any segregating pod wall color. Harvested fifty (50) of these plant rows which were uniform for pod wall color as well as other plant traits.

1984 These fifty plant rows were planted in replicated yield trials in 1984 in Illinois and Maryland. All F8 rows continued to be uniform for pod wall color and other plant traits. The top five (5) yielding sublines were bulked to form breeders seed of SS487.

Based on three years of observations for any variants in SS487, it can be concluded that SS487 is uniform and stable for all plant traits presented and no variants should be expected. This is based on three (3) generations of observations beginning with the F6 through the F8 generations. SS487 should be maintained and reproduced through seed without changing its characteristics.

EXHIBIT B

Novelty Statement Concerning SS487 - Soybean

To our knowledge the soybean varieties that most closely resemble SS487 are Douglas and Mitchell. Some characteristics which help differentiate SS487 from these lines are:

1. Flower Color

   SS487 = Purple
   Douglas = White
   Mitchell = Purple

2. Reaction to race 1 of Phytophthora megasperma Drechs. f. sp. glycinea:

   SS487 = Susceptible
   Douglas = Resistant
   Mitchell = Susceptible

3. Hilum Color

   SS487 = Black
   Douglas = Black
   Mitchell = Brown

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.*)*

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Southern States Cooperative, Inc.		SS 487

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*

6606 West Broad Street, P.O. Box 26234
Richmond, Virginia 23260

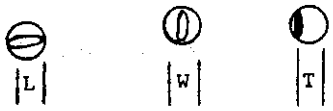
FOR OFFICIAL USE ONLY

PVPO NUMBER 8800116

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

[2]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ **2. SEED COAT COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ **4. SEED SIZE: (Mature Seed)**

[1][5] Grams per 100 seeds

★ **5. HILUM COLOR: (Mature Seed)**

[6] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

★ **6. COTYLEDON COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green

★ **7. SEED PROTEIN PEROXIDASE ACTIVITY:**

[1] 1 = Low 2 = High

★ **8. SEED PROTEIN ELECTROPHORETIC BAND:**

[ ] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

★ **9. HYPOCOTYL COLOR:**

[3] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ **10. LEAFLET SHAPE:**

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____

5

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17') 3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton') 3 = Dark Green ('Gnome'; 'Tracy')

★ **13. FLOWER COLOR:**

[2] 1 = White 2 = Purple 3 = White with purple throat

★ **14. POD COLOR:**

[1] 1 = Tan 2 = Brown 3 = Black

★ **15. PLANT PUBESCENCE COLOR:**

[2] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[2] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton') 3 = Bushy ('Gnome'; 'Govan')

★ **17. PLANT HABIT:**

[3] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will') 3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ **18. MATURITY GROUP:**

[0][7] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V 9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

★ **19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)**

BACTERIAL DISEASES:

★ [0] Bacterial Pustule *(Xanthomonas phaseoli* var. *sojensis)*

★ [0] Bacterial Blight *(Pseudomonas glycinea)*

★ [0] Wildfire *(Pseudomonas tabaci)*

FUNGAL DISEASES:

★ [0] Brown Spot *(Septoria glycines)*

Frogeye Leaf Spot *(Cercospora sojina)*

★ [0] Race 1 [0] Race 2 [0] Race 3 [0] Race 4 [0] Race 5 [ ] Other *(Specify)* _____

[0] Target Spot *(Corynespora cassiicola)*

[0] Downy Mildew *(Peronospora trifoliorum* var. *manshurica)*

[0] Powdery Mildew *(Microsphaera diffusa)*

★ [0] Brown Stem Rot *(Cephalosporium gregatum)*

[0] Stem Canker *(Diaporthe phaseolorum* var. *caulivora)*

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

★ [0] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[0] Purple Seed Stain *(Cercospora kikuchii)*

[0] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

★ [1] Race 1 [0] Race 2 [0] Race 3 [0] Race 4 [0] Race 5 [0] Race 6 [0] Race 7

[0] Race 8 [0] Race 9 [ ] Other *(Specify)* _____

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

★ [0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

★ [0] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

★ [0] Race 1 [0] Race 2 [1] Race 3 [0] Race 4 [ ] Other *(Specify)* _____

[0] Lance Nematode *(Hoplolaimus Colombus)*

★ [0] Southern Root Knot Nematode *(Meloidogyne incognita)*

★ [0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[0] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[ ] OTHER DISEASE NOT ON FORM *(Specify):* _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

★ [0] Iron Chlorosis on Calcareous Soil

[ ] Other *(Specify)* _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] Mexican Bean Beetle *(Epilachna varivestis)*

[0] Potato Leaf Hopper *(Empoasca fabae)*

[ ] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	A4268	Seed Coat Luster	A4595
Leaf Shape	A4268	Seed Size	Franklin
Leaf Color	A4268	Seed Shape	Douglas
Leaf Size	Douglas	Seedling Pigmentation	A4595

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted SS487	152	1.7	37					15	
Douglas Name of Similar Variety	150	2.6	37					17	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

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EXHIBIT E

Southern States Cooperative, Inc., Richmond, Virginia is the developer and owner of SS 487 soybean variety.